

REMARKS

In this response claims 1 and 6 have been amended and the express recitations of all other pending claims remain as previously presented. Accordingly, claims 1-11, 21- 27 and 29-33 remain pending in the application.

In the following remarks, references are made to certain numbered paragraphs and figures in the specification of the present patent application. These references relate to paragraphs and figures as numbered in the published version (Pub. No.: US 2007/0179606 A1) of patent application no. 10/564,518.

Independent claim 1 requires a prosthesis having a flexible portion and at least one less flexible portion. The flexible portion includes a fibre-reinforced hydrogel containing chopped fibres. Furthermore, fibres are wound around and encompass the whole of the flexible portion and the less flexible portion to reinforce the prosthesis. Paragraph [0060] of the present patent application describes that the hydrogel of the prosthesis contains chopped fibres, and FIG. 5, for example, illustrates that fibres are wound around the prosthesis and encompass the prosthesis. Thus, claim 1 as amended is supported by the specification of the present application and no new matter has been added by amendments herein.

Rejections under 35 U.S.C. § 103(a)

In the Office Action, claim 1 was twice rejected under 35 U.S.C. § 103 (a) as being unpatentable over several U.S. patents, namely the Dickman (7,066,960), Stubstad (3,867,728), Bao (5,047,055), and Stoy (6,264,695) patents. However, these references individually and together fail to render obvious a prosthesis having a flexible hydrogel portion containing chopped fibres, and having fibres wound around and encompassing the whole of the flexible portion and the less flexible portion. Thus, all of

the claims now pending in the present application are patentable by way of the recited features of the independent claim 1, from which all of the other claims depend directly or indirectly.

The **Dickman patent** illustrates a prosthesis 40 (FIGS. 3 and 4) having a core 42 and a fabric matrix 41 as described in lines 24-30 of column 7 of the specification. Lines 33-37 of column 7 particularly require that the core 42 contains a mix of polymer and fabric. In another example provided by the Dickman patent, FIG. 5 illustrates a prosthesis 50 having a polymer core 52 and fabric sheath 51 as described in lines 55-65 of column 8. Thus, the Dickman patent does not relate to the portion of claim 1 that requires a flexible hydrogel portion containing chopped fibres, which is patentably distinct from a polymer mixed with fabric as “fabric” cannot be construed to consist of chopped fibres. Additionally, the Dickman patent does not relate to the portion of claim 1 that requires fibres wound around and encompassing the whole of the flexible portion and the less flexible portion, which is patentably distinct from a fabric matrix or fabric sheath.

The **Stubstad patent** illustrates a prosthesis 10 (FIG. 1) having a core element 15 and top and bottom elements 11 and 12 (FIG. 2) as described in lines 38-42 of column 7. The central portion 16 of the core element 15 is made of rubber as described in lines 51-54 of column 7, without any mention of chopped fibers. Thus, the Stubstad patent does not relate to the portion of claim 1 that requires a flexible hydrogel portion containing chopped fibres. The top and bottom elements 11 and 12 of the prosthesis of the Stubstad patent, which are of the same construction as described in lines 41 and 42 of column 7, are layered as described in line 63 of column 7 through line 18 of column 8. A filament 29 stitches the final article 10 together as described in lines 32-37 of column 8. Thus, the Stubstad patent does not relate to the portion of claim 1

that requires fibres wound around and encompassing the whole of the flexible portion and the less flexible portion, which is patentably distinct from the stitched article of the Stubstad patent.

The **Bao patent** is even less relevant to the claimed invention of claim 1 and is primarily directed at hydrogels for use in disc nuclei. For example, the making of a prosthesis nucleus from a hydrogel is described in lines 31-42 of column 8 of the Bao patent. No mention of chopped fibres appears in the descriptions of the hydrogel in the Bao patent. Thus, the Bao patent does not relate to the portion of claim 1 that requires a flexible hydrogel portion containing chopped fibres. Furthermore, the prosthetic nucleus 10 of the Bao patent is implanted within the natural annulus fibrosus 16 of a patient as illustrated in FIGS. 1 and 3 as described in lines 31-33 of column 7. Thus, the Bao patent does not relate the portion of claim 1 that requires fibres wound around and encompassing the whole of the flexible portion and the less flexible portion.

The **Stoy patent** illustrates and describes a spinal nucleus implant more akin to that of the Bao patent than to the prosthesis of claim 1. As described in lines 21-34 of column 13, the spinal nucleus of the Stoy patent is to be implanted into a damaged natural annulus fibrosus. The Stoy patent makes no mention of chopped fibres being present in the nucleus implant, and makes no mention of fibres wound around and encompassing the whole of the implant.

The Dickman, Stubstad, Bao and Stoy patents individually and together fail to render obvious a prosthesis having a flexible hydrogel portion containing chopped fibres, a less flexible portion, and fibres wound around and encompassing the whole of the flexible portion and the less flexible portion. Thus, all of the claims now pending in the present application are patentable by way of the recited features of the independent claim 1, from which all of the other claims depend directly or indirectly. Accordingly, the

applicant respectfully requests the withdrawal of the rejections of all pending under 35 U.S.C. § 103(a).

CONCLUSION

Based on the above amendments and remarks, Applicant believes that the application is now in condition for allowance.

The Director is hereby authorized to charge any fees or any underpayments which may be required for the above-referenced application to Deposit Account No. 01-0265. Any overpayments should be refunded to Deposit Account No. 01-0265.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Brian D. MacDonald", is written over a horizontal line.

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